

Amendment and Response

Applicant: Michael F. Hoey et al.

Serial No.: 10/699,548

Filed: October 31, 2003

Docket No.: M190.133.102

Title: APPARATUS AND METHOD FOR CREATING, MAINTAINING, AND CONTROLLING A VIRTUAL ELECTRODE USED FOR THE ABLATION OF TISSUE

IN THE CLAIMS

Please amend claims 6, 10, 11, 20, 22, 24, 26, 36, 38, and 39 as follows:

1. – 5.(Cancelled)

6.(Currently Amended) A system for ablating tissue, comprising:

a surgical instrument including an ablation element for delivery of an ablating energy to the tissue;

a RF generator coupled to the surgical instrument to deliver ablating energy to the ablation element;

a memory chip coupled to the surgical instrument and storing predetermined time limit information for at least one operating parameter of the surgical instrument; and

a processor for receiving the predetermined time limit information for the at least one operating parameter and increasing a current value of the operating parameter after the predetermined time limit has elapsed.

7.(Previously Presented) The system of claim 6, wherein the memory chip is programmed with a second operating parameter including the number of times the surgical instrument is used and the processor is adapted to limit the number of times the surgical instrument is used based upon the second operating parameter.

8.(Previously Presented) The system of claim 6, wherein the operating parameter relates to the delivery of ablating energy.

9.(Previously Presented) The system of claim 8, wherein the processor is adapted to limit the amount of the ablating energy delivered to the surgical instrument based upon the operating parameter.

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10.(Currently Amended) The system of claim 8, wherein the processor is programmed to limit the total amount of time that must expired prior to the ablating energy is~~being~~ delivered to the surgical instrument based upon the operating parameter.

11.(Currently Amended) The system of claim 6, wherein the processor is programmed to establish a time limit within which the surgical instrument must be used ~~based upon the operating parameter.~~

12.(Previously Presented) The system of claim 6, wherein the memory chip is pre-programmed.

13.(Previously Presented) The system of claim 6, wherein the memory chip is a microchip.

14.(Previously Presented) The system of claim 6, wherein the memory chip is located in a connector used to couple the surgical instrument to the processor.

15.(Previously Presented) The system of claim 6, wherein the surgical instrument further includes a temperature sensor for sensing a temperature.

16.(Previously Presented) The system of claim 15, wherein the operating parameter relates to temperature.

17.(Previously Presented) The system of claim 6, further comprising a source of conductive fluid selectively providing conductive fluid to the tissue.

18.(Previously Presented) The system of claim 17, wherein the operating parameter relates to fluid flow.

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19.(Previously Presented) The system of claim 6, wherein the memory chip is adapted to provide a second operating parameter and the second operating parameter is an identifier unique to the surgical instrument.

20.(Currently Amended) A system for ablating tissue, comprising:
a surgical instrument including an ablation element for delivery of an ablating energy to the tissue;
a RF generator coupled to the surgical instrument to deliver ablating energy to the ablation element; and
an identifying means coupled to the surgical instrument and the RF generator, the identifying means programmed to provide at least one predetermined time limit designating an elapsed time required prior to changing for an identifying characteristic of the surgical instrument to a non-zero value~~the RF generator.~~

21.(Previously Presented) The system of claim 20, wherein the identifying characteristic is an operating parameter.

22.(Previously Presented) The system of claim 21, wherein the identifying means is configured to further provide ~~an~~ a second operating parameter used to limit the number of times the surgical instrument is used.

23.(Previously Presented) The system of claim 21, wherein the operating parameter relates to the delivery of ablating energy.

24.(Currently Amended) The system of claim 23, wherein the ~~operating parameter is used to limit the number of times~~ identifying means is programmed to establish a time limit and initiate delivery of the ablating energy is delivered to the surgical instrument upon expiration of the time limit.

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25.(Previously Presented) The system of claim 23, wherein the operating parameter is used to limit the total amount of time the ablating energy is delivered to the surgical instrument.

26.(Currently Amended) The system of claim 21, wherein the identifying means is configured to further provide a second operating parameter is-used to limit the amount of time within which the surgical instrument must be used.

27.(Previously Presented) The system of claim 20, wherein the identifying means is a memory chip.

28.(Previously Presented) The system of claim 27, wherein the memory chip is pre-programmed.

29.(Previously Presented) The system of claim 27, wherein the memory chip is a microchip.

30.(Previously Presented) The system of claim 20, wherein the identifying means includes a memory chip located in a connector.

31.(Previously Presented) The system of claim 20, wherein the surgical instrument further includes a temperature sensor for sensing a temperature.

32.(Previously Presented) The system of claim 31, wherein the identifying characteristic relates to temperature.

33.(Previously Presented) The system of claim 20, further comprising a source of conductive fluid selectively providing conductive fluid to the tissue.

34.(Previously Presented) The system of claim 33, wherein the identifying characteristic relates to fluid flow.

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35.(Previously Presented) The system of claim 20, wherein the identifying means is configured to further provide an identifier unique to the surgical instrument.

36.(Currently Amended) A method of treating tissue by ablation, the method comprising:
providing an RF generator for the delivery of an ablating energy;
connecting a surgical instrument to the RF generator, the surgical instrument comprising
an ablation element for delivery of the ablating energy to tissue and a memory
chip storing a predetermined time limit for an operating parameter;
placing the surgical instrument in contact with tissue to be ablated;
delivering the operating parameter from the memory chip to the RF generator; and
delivering ablating energy from the RF generator through the surgical instrument to tissue
to be ablated based upon the operating parameter;
changing a value of the operating parameter following elapse of a predetermined time
limit while maintaining the surgical instrument relative to the tissue; and
operating the surgical instrument to continue ablating the tissue.

37.(Previously Presented) The method of claim 36, wherein the memory chip delivers a second operating parameter that limits the number of times ablating energy is delivered from the RF generator through the surgical instrument.

38.(Currently Amended) The method of claim 36, wherein the memory chip delivers a second operating parameter that limits the total amount of time ablating energy is delivered from the RF generator through the surgical instrument.

39.(Currently Amended) The method of claim 36, ~~wherein the operating parameter~~
~~establishes~~further comprising establishing a time limit within which the surgical instrument may be used to deliver ablating energy.

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40.(Previously Presented) The method of claim 36, wherein the operating parameter limits the delivery of ablating energy from the RF generator through the surgical instrument.

41.(Previously Presented) The method of claim 36, wherein the memory chip is pre-programmed.

42.(Previously Presented) The method of claim 36, wherein the memory chip is a microchip.

43.(Previously Presented) The method of claim 36, wherein the memory chip is located in a connector used to connect the surgical instrument to the RF generator.

44.(Previously Presented) The method of claim 36, wherein the surgical instrument further comprises a temperature sensor.

45.(Previously Presented) The method of claim 44, wherein the operating parameter limits the delivery of ablating energy from the RF generator based on temperature.

46.(Previously Presented) The method of claim 36, further comprising selectively providing conductive fluid to the tissue to be ablated from a source of conductive fluid.

47.(Previously Presented) The method of claim 46, further comprising controlling the flow of fluid from the source of conductive fluid to the tissue based upon the operating parameter.

48.(Previously Presented) The method of claim 36, wherein the memory chip delivers a second operating parameter that is an identifier unique to the surgical instrument.